

# ICP-VR8488



EN Quick Reference Guide  
Intruder Alarm System



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## 1.0 Product Contents

The Bosch Security Systems, Inc. (Bosch) ICP-VR8488 Intruder Alarm System includes:

- ICP-VR8488 unit (includes case, keypad, ICP-VR8488 printed circuit board, 433MHz RF Receiver (RF3213E))

## 2.0 Introduction

The ICP-VR8488 is a desktop alarm system that incorporates keyfobs and supervised wireless sensors. You can assign up to 16 separate wireless devices to any of the eight available zones.

### 2.1 Features

- Eight zones
- Eight User Codes
- Eight RF keyfobs
- Supervised battery
- Desktop or wall-mountable
- Up to sixteen supervised wireless sensors
- Telephone line monitor
- Access denied supervision
- Lockout dialer and siren
- AWAY Mode and STAY Mode operations
- Delay reporting
- Day Alarm
- Telephone arming (AWAY Mode)
- Answering machine bypass
- Event memory recall
- Upload and download programmable
- Entry and Exit Warning
- Dual Reporting
- Sensor Watch
- Automatic Arming and Disarming
- AC Fail and Trouble Indicators
- Walk Test Mode
- Automatic Call Forward On and Off

## 3.0 Installation

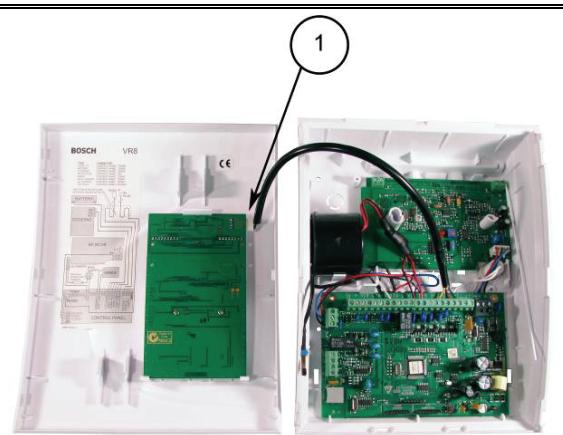
1. At the rear of the ICP-VR8488, insert a flat bladed screwdriver into the slot between the base and top cover as shown in *Figure 1* on page 6.

**Figure 1: Opening the Cover**



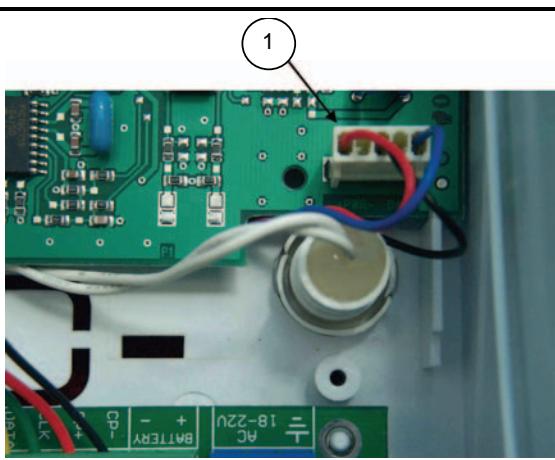
2. Use the screwdriver to pry the top cover up and forward.
3. Remove the top cover from the base unit as shown in *Figure 2* on page 6. Note that the keypad and the ICP-VR8488 printed circuit board (PCB) are connected.

**Figure 2: Removing the Cover**



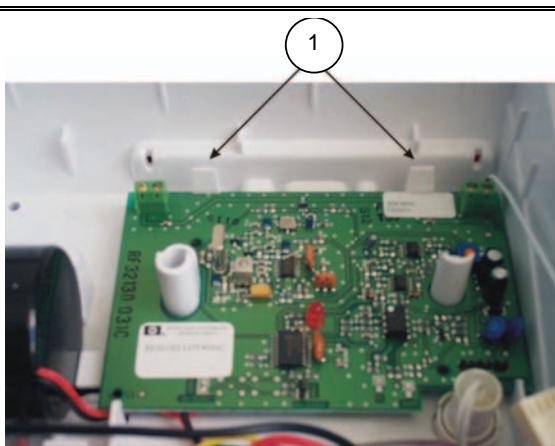
1 - Keypad data cable connector

4. Disconnect the data cable at the keypad connector.
5. Unplug the RF receiver data cable as shown in *Figure 3* on page 7.

**Figure 3: RF Receiver Data Cable**

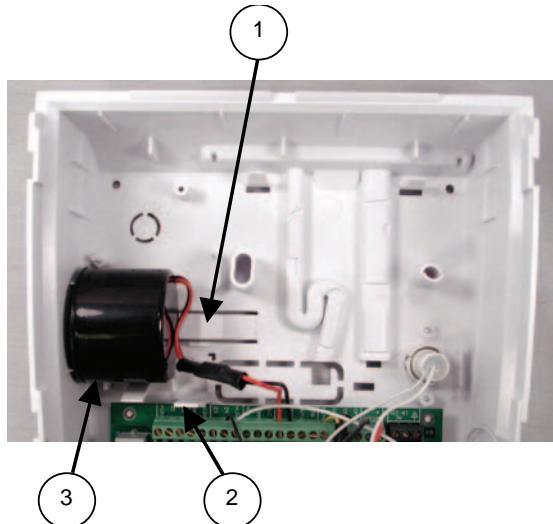
1 – RF Receiver data cable connector

6. Remove the RF Receiver from the case by pressing the two holding clips away from the RF Receiver while lifting the RF receiver circuit board away from the clips. Refer to *Figure 4* on page 7.

**Figure 4: Removing the RF Receiver**

1 – Holding clips

7. Press down on the latch that holds the siren in place lift the siren away from the side of the case. Refer to *Figure 5* on page 7.

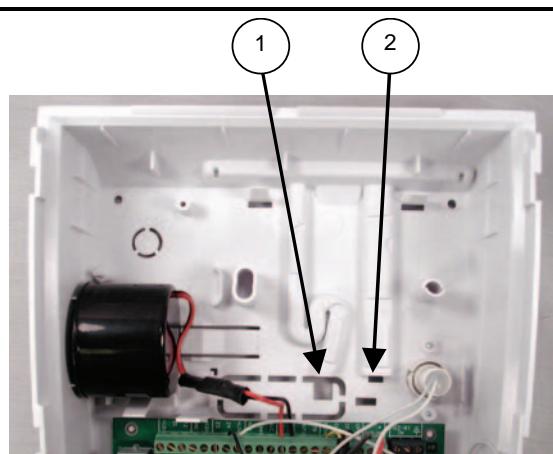
**Figure 5: Removing the DC Siren and ICP-VR8488 PCB**

1 – Siren latch

2 – ICP-VR8488 PCB latch

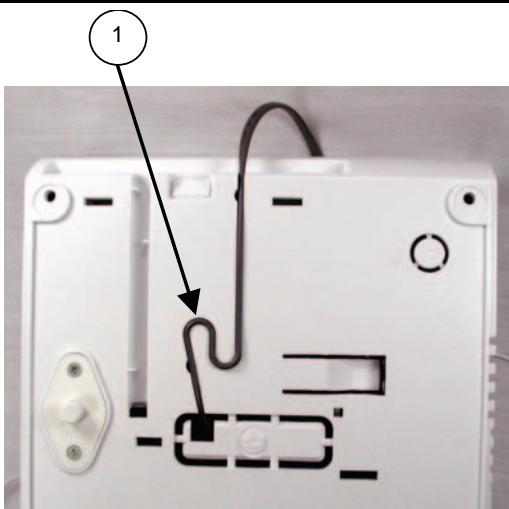
3 – DC siren

8. Press the latch away from the ICP-VR8488 PCB and remove the PCB from the case.
9. Insert the telephone lead through the entry hole shown in *Figure 6* on page 7 and route the telephone lead as shown in *Figure 7* on page 8.

**Figure 6: Entry Holes**

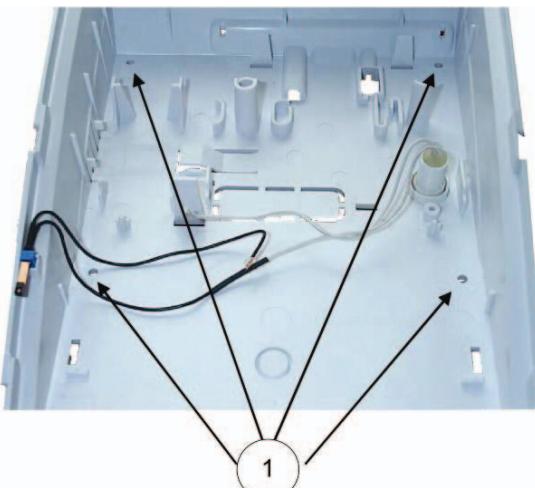
1 – Telephone lead entry hole

2 – AC plug pack lead entry hole

**Figure 7: Telephone Lead**

1 – Telephone lead

- Push the AC MAINS lead through the hole as shown in *Figure 6* on page 7.
- If you are mounting the ICP-VR8488 on the wall, do *Step 11*. If not, do *Step 12*.
- Mount the ICP-VR8488 on a suitable location using the four screw holes located in the base of the ICP-VR8488 case as shown in *Figure 8* on page 8.

**Figure 8: Wall Mounting Holes**

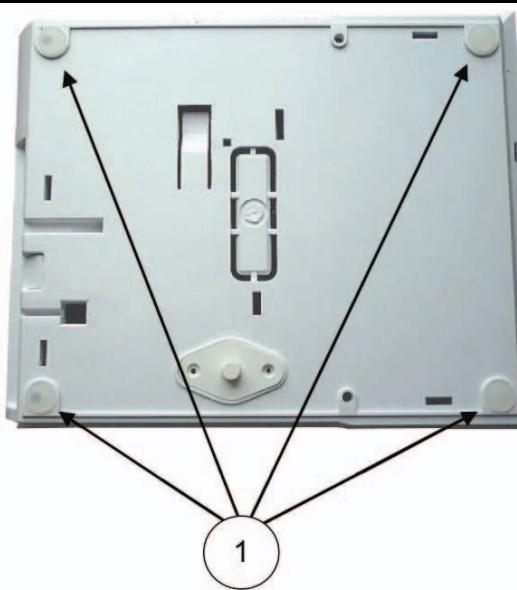
1 – Mounting holes



When mounting the unit on a wall, the ICP-VR8488 PCB is located at the bottom so when you attach the lid, the lid slides upward.

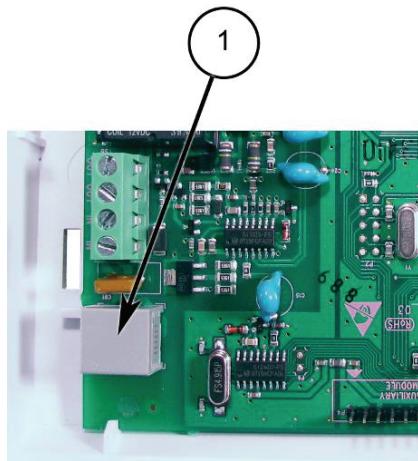
Continue with *Step 13*.

- Turn the base of the unit upside down and place the rubber feet on the four locations indicated in *Figure 9* on page 8.

**Figure 9: Rubber Feet Locations**

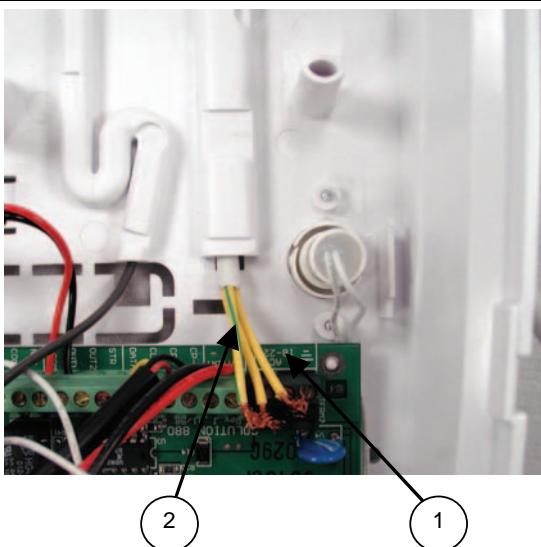
1 – Rubber feet

- Connect the telephone lead to the telephone socket (PHONE1) on the ICP-VR8488 circuit board as shown in *Figure 10* on page 8.

**Figure 10: Telephone Connection**

1 – Telephone socket

- Install the ICP-VR8488 PCB and DC Siren back into the case as shown in *Figure 5* on page 7.
- Install the RF Receiver PCB back into the case (refer to *Figure 4* on page 7) and connect the data cable (*Figure 3* on page 7).
- Connect the plug pack's leads to the 18–22 VAC and ground connectors on the ICP-VR8488 PCB as shown in *Figure 11* on page 9.

**Figure 11: Connecting the AC Plug Pack**

1 – AC power connections

2 – AC plug pack leads

17. Insert the 12 VDC 2 A battery (refer to *Figure 12* on page 9).

**Figure 12: Installing the Battery**

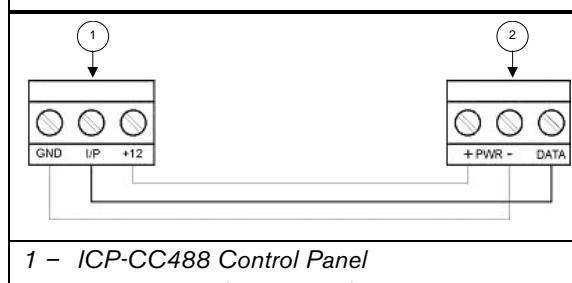
1 – Battery stand-off supports

18. Connect the keypad data cable to the keypad connector (*Figure 2* on page 6).
19. Connect the red and black battery leads from the ICP-VR8488 PCB to the + and – terminals, respectively, on the battery.
20. Install the cover on the ICP-VR8488.
21. Connect power to the ICP-VR8488 using the AC plug pack (TF008).
22. Enter the factory default code (2580) for User 1 and press [#] to reset any alarm that might occur upon system power up.



User 1 is set by factory default as a Master Code (2580).

## 4.0 RF Receiver Interface Connections

**Figure 13: RF Receiver (RF 3213/E) Wiring Diagram**

1 – ICP-CC488 Control Panel

2 – RF Receiver (RF 3213/E)

### 4.1 Wiring and Power Up

1. Remove power from the control panel.
2. Connect the RF Receiver to the control panel as shown in *Figure 13* on page 9 using 0.8mm (22-gauge) or larger wire. Wire length should not exceed 300 m (1000 ft).
3. Apply power to the control panel. The red LED at the center of the module turns.

### 4.2 Operation

The following describes the status of the module based on the LED condition.

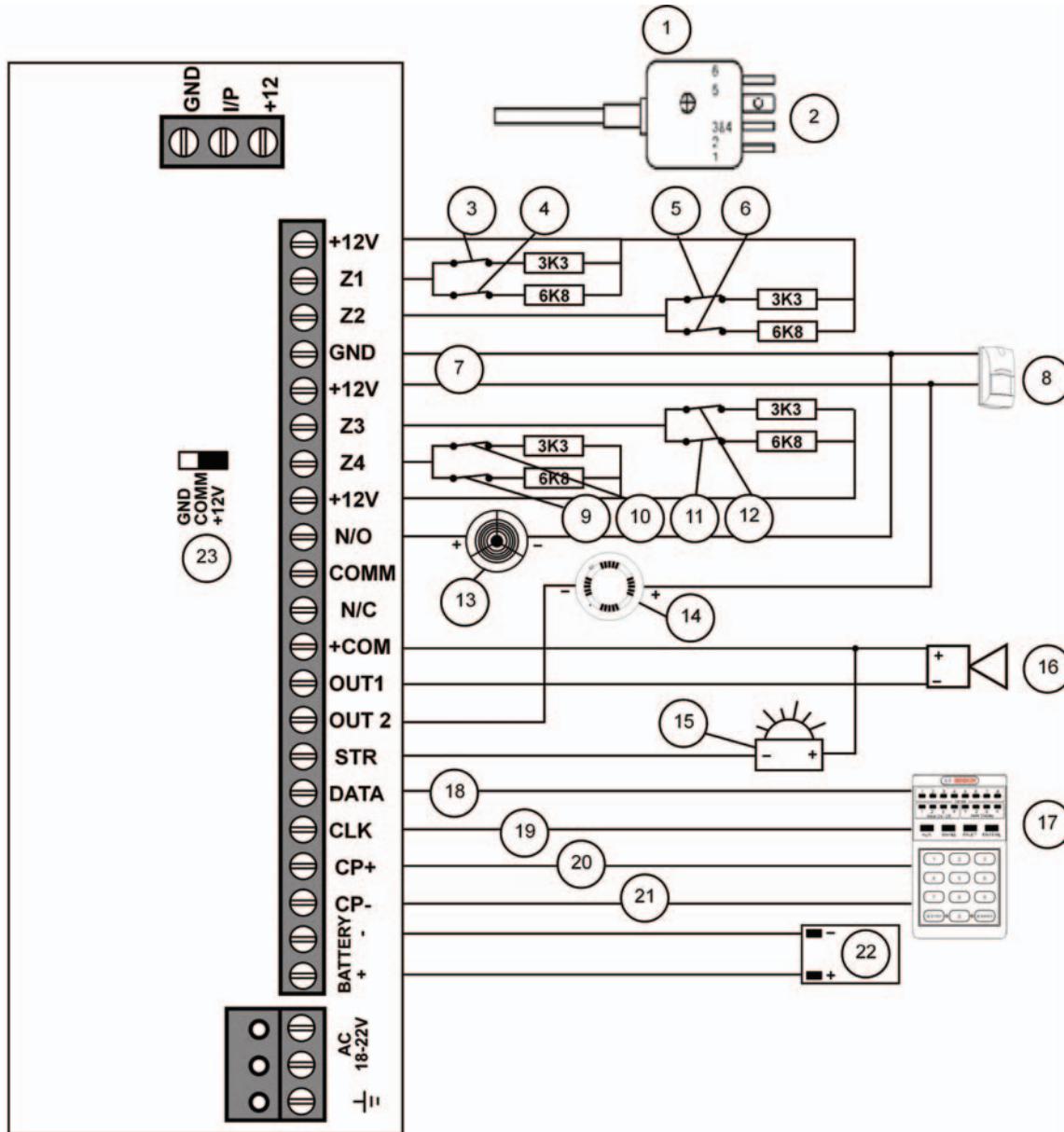
**LED On** – Module is functioning normally.

**LED Off** – Power failure occurred or module is not connected correctly.

**LED Turns Off Momentarily** – Module acknowledged receiving an RF signal from a remote RF device.

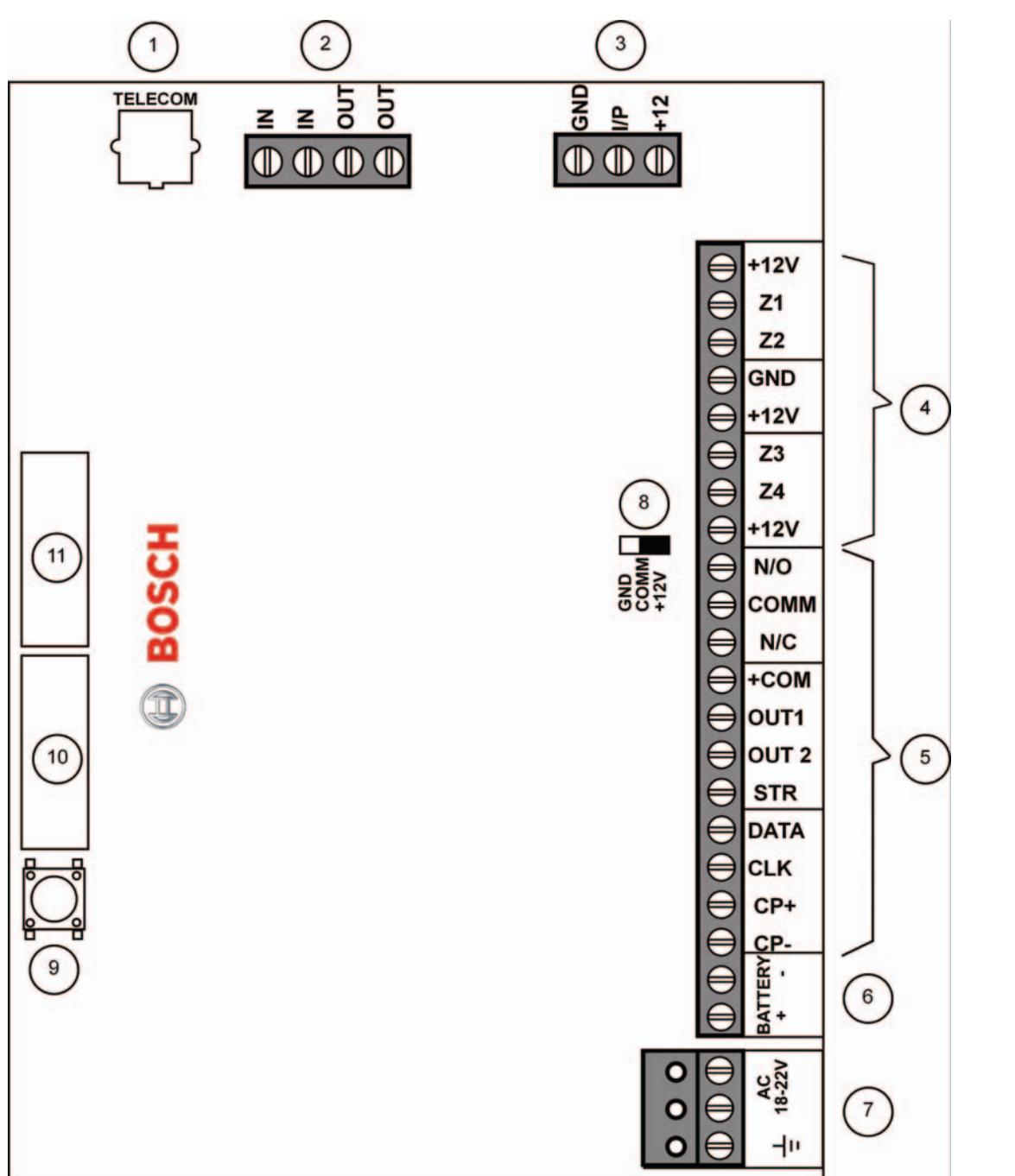
## 5.0 Diagrams

Figure 14: Wiring Diagram



1 – 605 plug	7 – Power to external equipment: 12 V @ 400 mA	15 – Strobe
2 – 6 (Red) Telecom line (street) 5 (Yellow) Internal phone line 3 and 4 Not used 2 (Black) Telecom line (street) 1 (Green) Internal phone line	8 – PIR	16 – Horn speaker
3 – Zone 1	9 – Zone 8	17 – Codepad
4 – Zone 5	10 – Zone 4	18 – Yellow
5 – Zone 2	11 – Zone 7	19 – Green
6 – Zone 6	12 – Zone 3	20 – Red
	13 – Piezo siren	21 – Black
	14 – Smoke detector	22 – Battery
		23 – Link between +12 V and Comm

Figure 15: ICP-CC488 Component Overlay



1 – Socket for telecom lead connect  
 2 – Termination for phone line  
     OUT – internal phone line  
     IN – Telecom line (street)  
 3 – Receiver interface connection  
 4 – Zone termination strip  
 5 – Output termination strip

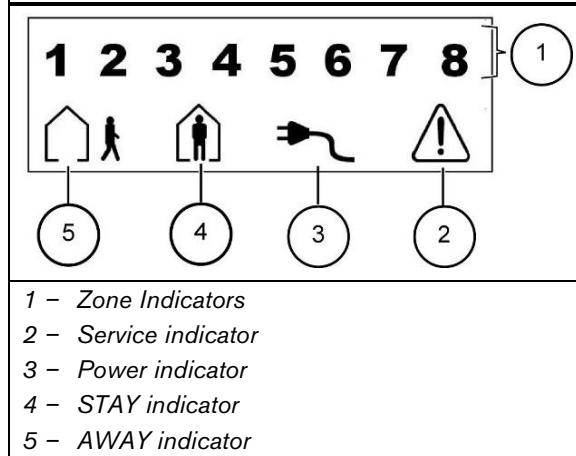
6 – Battery input  
 7 – Plug pack input (Bosch TF008)  
 8 – Relay contact select  
 9 – Default switch  
 10 – Programming key  
 11 – Auxiliary Module: direct link cable

## 6.0 Getting to Know the ICP-VR8488

The ICP-VR8488 Intruder Alarm System is made up of a control panel and detection devices such as magnetic/motion sensors and smoke sensors. The user operates the ICP-VR8488 using either the keypad or RF keyfobs.

If a detection device detects intrusion or smoke, the status of the device changes from normal to faulted. If a detection device faults when the ICP-VR8488 is armed (AWAY Mode or STAY Mode), the ICP-VR8488 sounds an alarm and sends an alarm report by telephone to the security company, which takes the appropriate action.

**Figure 16: Keypad Display**



**Table 1: Keypad Indicator States**

Indicator	Description
AWAY	On – the ICP-VR8488 is armed in AWAY Mode. Off – the ICP-VR8488 is not armed in AWAY Mode.
STAY	On – the ICP-VR8488 is armed in STAY Mode. Off – the ICP-VR8488 is not armed in STAY Mode.
Power	On – AC MAINS supply is normal. Flashing (with Service indicator) – AC MAINS supply failure.
Service	On – a trouble condition exists. Contact the security company. Flashing (with Power indicator) – AC MAINS supply failure.
Zone Indicators	On – the zone is faulted. Off – normal condition. Flashing – the zone is in alarm.
OFF	The OFF indicator lights when the system is disarmed and flashes when a zone becomes unsealed when disarmed. The indicator stops flashing when all zones are sealed.
ON	The ON indicator lights when the system is armed and flashes when an alarm occurs. The indicator is reset after a valid User Code is entered.

During installation the security company can configure various zones on the ICP-VR8488 to behave differently. Examples of different zones are listed in the following sections.

### 6.1 Burglary Zones

A burglary zone sounds an alarm when faulted only if the ICP-VR8488 is turned on (armed) in AWAY Mode or STAY Mode. When the ICP-VR8488 is turned off (disarmed), a burglary zone does not sound an alarm if faulted.

### 6.2 24-Hour Zones

A 24-hour zone (a tamper switch, for example) sounds an alarm when faulted whether the ICP-VR8488 is turned on or off.

### 6.3 Fire Zones

A fire zone (a smoke detector, for example), sounds an alarm when faulted whether the ICP-VR8488 is turned on or off.

### 6.4 AWAY Indicator



The AWAY indicator lights when the ICP-VR8488 is turned on in AWAY Mode.

## 6.5 STAY Indicator



The STAY indicator lights when the ICP-VR8488 is turned on in STAY Mode.

## 6.6 Trouble Conditions and the Service Indicator

The keypad beeps once every min to warn you of the trouble condition. Press [#] once to acknowledge the trouble condition and stop the keypad beeping.

## 6.7 Power Indicator States

If the power indicator is steady, the AC supply is normal. The keypad beeps once every min to warn you that the AC supply failed. Press [#] once to acknowledge the AC fail condition and stop the keypad beeping. When power is restored, the ICP-VR8488 returns to normal.

## 6.8 Zone Indicator Details

A zone indicator (1 to 16) lights when the corresponding zone is faulted. If the zone indicator flashes, the zone is in alarm, or the zone is in alarm memory. Alarm memory is cleared the next time you arm your system by turning the ICP-VR8488 on and off again.

Alarm memory allows you to verify the zones that become faulted before you reset the alarm condition or disarm the system.

## 6.9 Emergency Keys

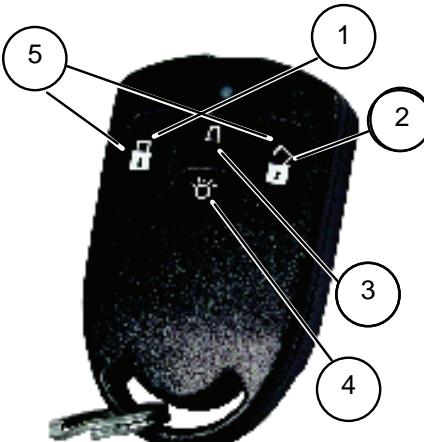
The ICP-VR8488 provides single key emergency functions (Panic, Fire, and Medical). Pressing any of these keys for 2 sec sounds the siren and sends a report to the security company. The security company then acts accordingly for each emergency situation.

You can activate a panic alarm using the keyfob by pressing both the lock key (Button 1) and the un-lock key (Button 2) at the same time.

## 6.10 Keyfobs

You can operate the ICP-VR8488 using a four-button keyfob instead of the keypad.

Figure 17: RF333: 4-Button Keyfob Transmitter



- 1 – Arm button
- 2 – Disarm button
- 3 – Option 1 button
- 4 – Option 2 button.
- 5 – Arm and Disarm buttons: Press both buttons at same time for 2 sec to send a Panic alarm

The system can be programmed so that a ICP-VR8488 speaker or siren sounds each time you turn the ICP-VR8488 on and off using a keyfob.

## 7.0 Programming the System

All system programming options are stored in a non-volatile EPROM. All programming configuration remains intact during a total power loss.

After entering programming mode, programming the system consists of specifying the location number to program, and changing the data within that location.

Repeat this procedure (specifying the location number and changing the data) until all required locations are programmed, and then you exit programming mode.

To enter Programming Mode, enter the Installer Code and press [#].  
For example, [1 2 3 4 #].



The factory default Installer Code is 1234.

To exit Programming Mode, enter [9 6 0 #].

To select a location, enter the location number and press [#].

To enter data at the current location, enter the data value (0 – 15) and press [\*].

To step forward one location, press [#].

To step back one location, press [\*].

**Example**

To program Phone Number 1 for Destination 1 as 96721233 and the Account Number for Destination 1 as 9876:

1. Enter the Installer Code and press [#] to enter Installer's Programming Mode.  
For example, [1 2 3 4 #].
2. Enter [0 #] to move to Location 000.
3. Enter:  
[9 \* # 6 \* # 7 \* # 2 \* # 1 \* # 2 \* # 3 \* # 3 \*] to program Phone Number 1 for Destination 1 as 96721233.
4. Enter [3 4 #] to go to Location 034.
5. Enter [0 \* # 0 \* # 9 \* # 8 \* # 7 \* # 6 \* #] to program Account Number for Destination 1 as 9876.
6. Enter [9 6 0 #] to exit from the Installer's Programming Mode.

**7.1 Programming Option Bit Locations**

Option bit locations enable you to program any combination of up to four different options within the same location. This feature saves time programming and reduces the number of locations to be programmed.

**Example**

If at Location 177 you only want options 1, 2, and 4, add the numbers together and the total is the number to be programmed. For example, the number to be programmed is 7 ( $1 + 2 + 4 = 7$ ).

**Table 2: Location 177 Programming Option Bits**

Option	Description
1	Dialer reporting functions allowed.
2	Remote arming by telephone allowed.
4	Answering machine bypass only when armed.
8	Use Bell 103 for FSK format (disabled = CCITT V21).

**8.0 Using the System****8.1 Assigning RF Sensors**

Before programming the wireless sensors, you must assign each RF sensor to a zone. You can assign up to 16 wireless RF sensors to the ICP-VR8488 Intruder Alarm System across eight separate zones. RF sensors 1 to 8 are already assigned to their corresponding zone (for example, RF Sensor 1 is assigned to Zone 1, RF Sensor 2 is assigned to Zone 2, and so on).

You assign RF sensor devices to Zones 1 to 8 by programming Locations 616 to 623. Each location represents an RF sensor device. You can assign multiple RF sensors to the same zone.

**8.2 Adding RF Sensors**

Do the procedure below to program the ID number of each RF sensor into the system. The RF sensor is assigned to the zone mapped in Locations 616 to 623.

1. Enter the Installer Code and press [0 #].  
For example, [1 2 3 4 0 #].
2. Enter the RF sensor number (1 to 16) to add and press [#].  
For example [1 #] to add Sensor 1 or [1 6 #] to add Sensor 16.
3. Enter the nine-digit ID number found on the RF sensor and press [#].  
For example, [0 0 0 3 8 7 9 4 1 #].

**8.3 Deleting RF Sensors**

To delete an RF sensor:

1. Enter the Installer Code and press [0 #].  
For example, [1 2 3 4 0 #].
2. Enter the RF sensor number (1 to 16) to delete and press [#].  
For example, [1 #] to delete Sensor 1 or [1 6 #] to delete Sensor 16.
3. Press [\*] to delete the RF sensor from the system.

**8.4 Adding RF Keyfobs**

The ICP-VR8488 supports a total of 16 users. Users 1 to 8 are assigned as PIN codes and Users 9 to 16 are assigned as remote radio RF codes. Follow the steps outlined below to add RF keyfobs.

1. Enter your Master Code and press [1 #].  
For example, [2 5 8 0 1 #].
2. Enter the user number (9 to 16) to add and press [#].  
For example, [9 #] to add RF Keyfob 1 or [1 6 #] to delete RF Keyfob 8.
3. Enter the nine-digit ID number found on the RF keyfob and press [#].  
For example, [0 0 8 0 2 1 6 2 9 #].

**8.5 Deleting RF Keyfobs**

To delete an RF keyfob:

1. Enter your Master Code and press [1 #].  
For example, [2 5 8 0 1 #].
2. Enter the user number (9 to 16) to delete and press [#].  
For example, [9 #] to delete RF Keyfob 1 or [1 6 #] to delete RF Keyfob 8.
3. Press [\*] to delete the RF keyfob from the system.

**8.6 Arming the System (On)****8.6.1 AWAY Mode**

Press and hold [#] until two beeps sound.

Or

Enter your code and press [#].

For example, [2 5 8 0 #].

### 8.6.2 STAY Mode 1

Press and hold [\*] until two beeps sound.  
Or  
Enter your code and press [\*].  
For example, [2 5 8 0 \*].

### 8.6.3 STAY Mode 2

Press and hold [0] until two beeps sound.

## 8.7 Disarming the System (Off)

To turn the system off from AWAY Mode or STAY Mode:

Enter your code and press [#].  
For example, [2 5 8 0 #].

## 8.8 Isolating Zones

### 8.8.1 Standard Isolate Method

1. Press [\*] twice.
2. Enter the zone number to isolate and press [\*].  
Repeat *Step 2* to isolate more than one zone.
3. When finished, press [#] to exit.

### 8.8.2 Code to Isolate

1. Press [\*].
2. Enter your User Code and then press [\*].
3. Enter the zone number to isolate and press [\*].  
Repeat *Step 2* to isolate more than one zone.
4. When finished, press [#].

## 8.9 Set First Test Report

1. Enter the Installer Code and press [1#].  
For example, [1 2 3 4 1 #].
2. Enter the number of days (0 to 15) to wait until the first Test Report and press [#].

## 8.10 Event Memory Recall

Enter the Installer Code and press [8 #].  
For example, [1 2 3 4 8 #].



The last 40 events (non-partitioned) or last ten events (partitioned) display in reverse order (that is, most recent to least recent).

## 8.11 Walk Test Mode

1. Enter the Installer Code or your Master Code and press [7 #].  
For example, [1 2 3 4 7 #].
2. Test each zone.
3. Press [#] to exit.

## 8.12 Satellite Siren Service Mode

Enter the Installer Code and press [5 #].  
For example, [1 2 3 4 5 #].

## 8.13 Telephone Monitor Mode (Toggle On/Off)

1. Enter the Installer Code and press [6 #].  
For example, [1 2 3 4 6 #].

2. To send a Test Report, press and hold [9] until two beeps sound.
3. When complete, repeat *Step 1* to toggle Telephone Monitor Mode off.

**Table 3: Telephone Monitor Mode Zone LEDs**

Zone LED	Dialing Event
1	Telephone line seized
2	Dialing telephone number
3	Handshake received
4	Data being sent
5	Kiss-off received
None	Released telephone line

## 8.14 Add/Delete User Code

### 8.14.1 Add a User Code

1. Enter your Master Code and press [1 #].  
For example, [2 5 8 0 1 #].
2. Enter the user number (1 to 16) to add or change, and press [#].
3. Enter the new code and press [#].

### 8.14.2 Delete a User Code

1. Enter your Master Code and press [1 #].  
For example, [2 5 8 0 1 #].
2. Enter the user number (1 to 16) to delete and press [#].
3. Press [\*] to delete the user code.

## 8.15 Change Domestic Telephone Numbers

1. Enter the Installer Code or your Master Code and press [2 #].  
For example, [1 2 3 4 2 #].
2. Enter the digits for the telephone number.
3. If you are changing more than one telephone number, enter [\* 4] (which inserts a break between phone numbers), and repeat *Step 2*.
4. Press [#] to exit.

## 8.16 Turn Outputs On/Off

1. Enter your Master Code and press [5 #].  
For example, [2 5 8 0 5 #].
2. Enter the output number (1 to 3) to toggle on or off.
3. Press [#] to turn the output on, or [\*] to turn the output off.
4. Press [#] to exit.

## 8.17 Setting Date and Time

1. Enter your Master Code and press [6 #].  
For example, [2 5 8 0 6 #].
2. Enter the day (DD), month (MM), year (YY), hour (HH), and minute (MM).
3. Press [#] to exit.

## 8.18 Toggle Day Alarm On/Off

Press and hold [4] until two beeps sound. Day Alarm toggles on or off.

## 8.19 STAY Mode 2 Zones - Program

1. Enter the Installer Code or your Master Code and press [4 #].  
For example, [1 2 3 4 4 #].
2. Enter the zone number the system should automatically isolate and press [\*].

3. Repeat *Step 2* to select another zone to be automatically isolated when armed in STAY Mode 2.
4. Press [#] to exit.

## 8.20 Fault Analysis

1. Press and hold [5] until two beeps sound.
2. The zone indicators display the fault condition. Refer to *Table 4* on page 16.
3. Press [#] to exit.

**Table 4: Fault Indicators**

Zone Indicator	Fault Description	Hold Down Button	Zone Indicator	Fault Condition
1	System Fault	1	1	Battery Fail
			2	Date and Time
			3	RF Receiver Fail
			4	Horn Speaker Fail
			5	Telephone Line Fail
			6	EEPROM Fault
			7	AUX Power Supply Fail
			8	AC Fail
2	RF Low Battery	2	1 to 8	Zones 1 to 8 RF Low Battery
3	Zone Tamper Alarm	3	1 to 8	Zones 1 to 8 Tamper Alarm
4	Sensor Watch Fault	4	1 to 8	Zones 1 to 8 Sensor Watch Fail
5	RF Sensor Watch	5	1 to 8	Zones 1 to 8 RF Sensor Watch Fail
6	Communication Fail	6	1	Receiver 1 Fail
			2	Receiver 2 Fail

## 8.21 Modem Call (Alarm Link)

Press and hold [6] until two beeps sound.

## 8.22 Latching Outputs (Reset)

Press and hold [7] until two beeps sound.

## 8.23 Codepad ID/Buzzer Tone

Press and hold [8] until you hear the desired buzzer tone.

## 8.24 Test Report

Press and hold [9] until two beeps sound.

## 8.25 Speaker Test

Press and hold [1] until two beeps sound. The speaker sounds for 2 sec.

## 8.26 Bell Test

Press and hold [2] until two beeps sound. The piezo siren sounds for 2 sec.

## 8.27 Strobe Test (Toggle On/Off)

1. To turn the strobe on, press and hold [3] until three beeps sound.
2. To turn the strobe off, press and hold [3] until two beeps sound.

## 8.28 Telco Arm Sequence (Call Forward On)

This option allows you to enable the Call Forward – Immediate On sequence or Call Forward – No Answer sequence that automatically operates when you arm the system in the AWAY Mode.

1. Enter the Installer Code or your Master Code and press [3 #].  
For example, [1 2 3 4 3 #].
2. Enter [1 #].
3. Enter the Call Forward On sequence.
4. Press [#] to exit.

## 8.29 Telco Disarm Sequence (Call Forward Off)

This option allows you to disable the Call Forward – Immediate On sequence or Call Forward – No Answer sequence that automatically operates when you arm the system in the AWAY Mode.

1. Enter the Installer Code or your Master Code and press [3 #].  
For example, [1 2 3 4 3 #].
2. Enter [2 #].
3. Enter the Call Forward Off sequence.
4. Press [#] to exit.

## 9.0 Programming Guide



Shaded options indicate default values.

### Phone Number 1 - Receiver 1

<b>Location</b>	000 to 015
<b>Default</b>	0
0 = 10 and telephone termination = 0	
Anywhere else 0 = 0	

### Phone Number 2 - Receiver 1

<b>Location</b>	016 to 031
<b>Default</b>	0
0 = 10 and telephone termination = 0	
Anywhere else 0 = 0	

### Handshake Tone for Receiver 1

<b>Location</b>	032
1	HI-LO handshake (Contact ID)
2	1400 Hz (Ademco TX @ 1900 Hz)
3	2300 Hz (Sescoa TX @ 1800 Hz)
4	No handshake
5	Pager

### Transmission Format for Receiver 1

<b>Location</b>	033
1	Contact ID
2	4 + 2 express
3	FSK 300 baud
4	Domestic
5	Basic pager

### Subscriber ID Number for Receiver 1

<b>Location</b>	034 to 039
<b>Default</b>	0

### Phone Number 1 - Receiver 2

<b>Location</b>	040 to 055
<b>Default</b>	0
0 = 10 and telephone termination = 0	
Anywhere else 0 = 0	

### Phone Number 2 - Receiver 2

<b>Location</b>	056 to 071
<b>Default</b>	0
0 = 10 and telephone termination = 0	
Anywhere else 0 = 0	

### Handshake Tone for Receiver 2

<b>Location</b>	072
1	HI-LO handshake (Contact ID)
2	1400 Hz (Ademco TX @ 1900 Hz)
3	2300 Hz (Sescoa TX @ 1800 Hz)
4	No handshake
5	Pager

### Transmission Format for Receiver 2

<b>Location</b>	073
1	Contact ID
2	4 + 2 expressed
3	FSK 300 baud
4	Domestic
5	Basic pager

### Subscriber ID Number for Receiver 2

<b>Location</b>	074 to 079
<b>Default</b>	0
Right justified	

### Dialing Format

<b>Location</b>	080
1	Australian DTMF
2	Australian decimal
3	Alternate DTMF and Australian decimal
4	International DTMF
5	Reversed decimal
6	Alternate DTMF and reversed decimal

### Reserved

<b>Location</b>	081 to 112
Reserved	

### Telco Arming Sequence (Call Forward On)

<b>Location</b>	113 to 142
<b>Default</b>	0

### Telco Disarm Sequence (Call Forward Off)

<b>Location</b>	143 to 158
<b>Default</b>	0

### Call Back Telephone Number

<b>Location</b>	159 to 174
<b>Default</b>	0
0 = 10 and telephone termination = 0	
Anywhere else 0 = 0	

### Ring Count

<b>Location</b>	175
<b>Default</b>	8
0	Panel does not answer
1 to 13	Number of rings until panel answers
14	Answering machine bypass 2
15	Answering machine bypass 1

**Telephone Line Fail Options**

<b>Location</b>	176
<b>Default</b>	0
1	Display FAULT indicator when telephone line fails
2	Sound alarm when system arms
4	Sound alarm when system disarms



Options 2 and 4 must be used in conjunction with Option 1 (for example, program 1, 3, 5, or 7).

**Dialer Options 1**

<b>Location</b>	177
1	Dialer reporting functions allowed
2	Remote arming by telephone allowed
4	Answering machine bypass only when armed
8	Bell 103 used for FSK format (Disabled = CCITT V21)

**Dialer Options 2**

<b>Location</b>	178
<b>Default</b>	0
1	Open/Close Reports only if previous alarm
2	Open/Close Reports in STAY Mode allowed
4	Delay siren until transmission complete
8	Extend handshake wait time from 30 sec to 60 sec

**Dialer Options 3**

<b>Location</b>	179
<b>Default</b>	0
1	Set DTMF dialing pulses to 1 digit/sec
2	Lockout telephone line fail alarm
4	Change decadic dialing to 60/40
8	Reserved

**Alarm Link Options**

<b>Location</b>	180
1	Upload/download allowed
2	Call back phone number required for upload/download
4	Exit upload/download connection on alarm
8	Reserved

**Installer Code**

<b>Location</b>	181 to 184
<b>Location</b>	<b>Default</b>
181	1
182	2
183	3
184	4

**User Codes**

<b>Location</b>	185 to 264
	<b>Location</b>
User #01	185 2
	186 5
	187 8
	188 0
	Authority Level* 189 10
User #02	190 to 193 15
	Authority Level* 194 2
User #03	195 to 198 15
	Authority Level* 199 2
User #04	200 to 203 15
	Authority Level* 204 2
User #05	205 to 208 15
	Authority Level* 209 2
User #06	210 to 213 15
	Authority Level* 214 2
User #07	215 to 218 15
	Authority Level* 219 2
User #08	220 0
	221 to 223 15
	Authority Level* 224 3
RF User #09	225 to 228 15
	Authority Level* 229 2
RF User #10	230 to 233 15
	Authority Level* 234 2
RF User #11	235 to 238 15
	Authority Level* 239 2
RF User #12	240 to 243 15
	Authority Level* 244 2
RF User #13	245 to 248 15
	Authority Level* 249 2
RF User #14	250 to 253 15
	Authority Level* 254 2
RF User #15	255 to 258 15
	Authority Level* 259 2
RF User #16	260 to 263 15
	Authority Level* 264 2

\* Refer to *User Code Authority Levels* on page 19 for Authority Level descriptions.

**User Code Authority Levels**

Priority	Description
0	Arm/disarm
1	Arm only
2	Arm/disarm and Open/Close Reports
3	Arm only and Close Report
4	Arm/disarm and code to isolate
6	Arm/disarm, code to isolate, and Open/Close Reports
8	Arm/disarm and Master Code functions
10	Arm/disarm, Master Code functions, and Open/Close Reports
12	Arm/disarm, Master Code functions, and code to isolate
14	Arm/disarm, Master Code functions, code to isolate, and Open/Close Reports

**Day Alarm Zones**

Location	265
Default	0
1	Zone 1
2	Zone 2
4	Zone 3
8	Zone 4

**EOL Resistor Value**

Location	266
0	No EOL
1	1K
2	1K5
3	2K2
4	3K3
5	3K9
6	4K7
7	5K6
8	6K8
9	10K
10	12K
11	22K
12	Reserved
13	Reserved
14	Split EOL (3K3/6K8 with tamper (1K)
15	Split EOL (3K3/6K8) 1% resistors

**Zone Defaults**

Location	267 to 322	Location	Default
<b>Zone #01 (Default = Delay-1)</b>			
Zone Type	267	2	
Zone Pulse Count	268	0	
Zone Pulse Count Time	269	0	
Zone Options 1	270	1	
Zone Options 2	271	14	
Report Code	272	1	
Dialer Options	273	1	
<b>Zone #02 (Default = Handover)</b>			
Zone Type	274	1	
Zone Pulse Count	275	0	
Zone Pulse Count Time	276	0	
Zone Options 1	277	1	
Zone Options 2	278	14	
Report Code	279	1	
Dialer Options	280	1	
<b>Zone #03 (Default = Handover)</b>			
Zone Type	281	1	
Zone Pulse Count	282	0	
Zone Pulse Count Time	283	0	
Zone Options 1	284	1	
Zone Options 2	285	14	
Report Code	286	1	
Dialer Options	287	1	
<b>Zone #04 (Default = Handover)</b>			
Zone Type	288	1	
Zone Pulse Count	289	0	
Zone Pulse Count Time	290	0	
Zone Options 1	291	1	
Zone Options 2	292	14	
Report Code	293	1	
Dialer Options	294	1	
<b>Zone #05 (Default = Instant)</b>			
Zone Type	295	0	
Zone Pulse Count	296	0	
Zone Pulse Count Time	297	0	
Zone Options 1	298	1	
Zone Options 2	299	14	
Report Code	300	1	
Dialer Options	301	1	
<b>Zone #06 (Default = Instant)</b>			
Zone Type	302	0	
Zone Pulse Count	303	0	
Zone Pulse Count Time	304	0	
Zone Options 1	305	1	
Zone Options 2	306	14	
Report Code	307	1	
Dialer Options	308	1	

Location	309 to 322 (continued)	
<b>Zone #07 (Default = Instant)</b>		
Zone Type	309	0
Zone Pulse Count	310	0
Zone Pulse Count Time	311	0
Zone Options 1	312	1
Zone Options 2	313	12
Report Code	314	1
Dialer Options	315	1
<b>Zone #08 (Default = 24 hr. Tamper)</b>		
Zone Type	316	9
Zone Pulse Count	317	0
Zone Pulse Count Time	318	0
Zone Options 1	319	1
Zone Options 2	320	12
Report Code	321	1
Dialer Options	322	1

#### Zone Types

Zone Type	Description
0	Instant
1	Handover
2	Delay 1
3	Delay 2
4	Reserved
5	Reserved
6	24-hour medical
7	24-hour panic
8	24-hour hold-up
9	24-hour tamper
10	Reserved
11	Keypad
12	24-hour burglary
13	24-hour fire
14	Chime
15	Not used

#### Zone Pulse Count

Use the pulse count to program the number of pulses (0 to 15) that must register within the pulse count time to activate an alarm.

#### Zone Pulse Count Time

Option	20 ms Loop Response Time	Option	150 ms Loop Response Time
0	0.5 sec	8	20 sec
1	1 sec	9	30 sec
2	2 sec	10	40 sec
3	3 sec	11	50 sec
4	4 sec	12	60 sec
5	5 sec	13	90 sec
6	10 sec	14	120 sec
7	15 sec	15	200 sec

#### Zone Options 1

Option	Description
1	Lockout siren/dialer
2	Delay Alarm Report
4	Silent alarm
8	Sensor watch

#### Zone Options 2

Option	Group
1	Isolated in STAY Mode 1
2	Zone isolation allowed
4	Forced arming allowed
8	Zone Restore Report allowed

#### Zone Dialer Options

Option	Description
0	No Zone Reports allowed
1	Report to Receiver 1
2	Report to Receiver 2
4	Report to both Receiver 1 and Receiver 2
8	Report to Receiver 2 only if Receiver 1 fails

#### Keypad Zone Options

The keypad zone options replace Zone Options 1 for zones programmed to operate as keypad zones.

Option	Description
0	Latching arm and disarm in AWAY Mode
1	Latching arm in AWAY Mode
2	Latching disarm from AWAY Mode or STAY Mode
4	Latching arm and disarm in STAY Mode
5	Latching arm in STAY Mode
6	Latching disarm from STAY Mode
8	Momentary arm and disarm in AWAY Mode
9	Momentary arm in AWAY Mode
10	Momentary disarm from AWAY Mode or STAY Mode
12	Momentary arm and disarm in STAY Mode
13	Momentary arm in STAY Mode
14	Momentary disarm from STAY Mode

#### Swinger Shutdown Count for Siren

Location	379
<b>Default</b>	3
1 to 15	Number of times siren operates until lockout

#### Swinger Shutdown Count for Dialer

Location	380
<b>Default</b>	6
0	Unlimited
1 to 15	Number of times dialer operates until lockout

**Zone Status – Zone Tamper Report**

Location	381 to 382	Location	Default
Zone Tamper Report	381	0	
Zone Tamper Restore Report	382	0	

**Zone Status – Walk Test Report**

Location	383 to 384	Location	Default
Walk Test Start Report	383	0	
Walk Test End Report	384	0	

**Zone Status – Bypass Report**

Location	385 to 386	Location	Default
Zone Bypass Report	385	9	
Zone Bypass Restore Report	386	8	

**Zone Status – Trouble Report**

Location	387 to 388	Location	Default
Zone Trouble Report	387	2	
Zone Trouble Restore Report	388	3	

**Zone Status – Sensor Watch Report**

Location	389 to 390	Location	Default
Sensor Watch Report	389	4	
Sensor Watch Restore Report	390	5	

**Zone Status – Alarm Restore Code**

Location	391	Default	14

**Zone Status Reporting Options**

Location	392	0	No zone status reports allowed
		1	Report to Receiver 1
		2	Report to Receiver 2
		4	Report to both Receiver 1 and Receiver 2
		8	Report to Receiver 2 only if Receiver 1 fails

**RF Supervision Time**

Location	393	Default	0
			Increments of 6 hours (0 to 90 hours)

**RF Low Battery Report**

Location	394 to 395	Location	Default
RF Low Battery Report	394	6	
RF Low Battery Restore Report	395	8	

**RF Receiver Trouble Report**

Location	396 to 397	Location	Default
RF Receiver Trouble Report (tens digit)	396	7	
RF Receiver Trouble Report (units digit)	397	9	

**RF Receiver Trouble Restore Report**

Location	398 to 399	Location	Default
RF Receiver Trouble Restore Report (tens digit)	398	7	
RF Receiver Trouble Restore Report (units digit)	399	11	

**RF Dialer Options**

Location	400	0	No RF Reports allowed
		1	Report to Receiver 1
		2	Report to Receiver 2
		4	Report to both Receiver 1 and Receiver 2
		8	Report to Receiver 2 only if Receiver 1 fails

**Open/Close Reports**

Location	401 to 402	Location	Default
Open Report	401	11	
Close Report	402	12	

**Open/Close Reporting Options**

Location	403	0	No Open/Close Reports allowed
		1	Report to Receiver 1
		2	Report to Receiver 2
		4	Report to both Receiver 1 and Receiver 2
		8	Report to Receiver 2 only if Receiver 1 fails

**Codepad Duress Report**

Location	404	Default	6

**Codepad Panic Report**

Location	405 to 406	Location	Default
Tens digit	405	7	
Units digit	406	15	

**Codepad Fire Report**

Location	407 to 408	Location	Default
Tens digit	407	7	
Units digit	408	14	

**Codepad Medical Report**

Location	409 to 410	Location	Default
Tens digit	409	7	
Units digit	410	13	

**Codepad Reporting Options**

Location	411
0	No Codepad Alarm Reports allowed
1	Report to Receiver 1
2	Report to Receiver 2
4	Report to both Receiver 1 and Receiver 2
8	Report to Receiver 2 only if Receiver 1 fails

**System Status – AUX Power Supply Fail Report**

Location	412 to 413	Location	Default
Tens digit	412	10	
Units digit	413	3	

**System Status – AUX Power Supply Fail Restore Report**

Location	414 to 415	Location	Default
Tens digit	414	10	
Units digit	415	8	

**System Status – AC Fail Report**

Location	416 to 417	Location	Default
Tens digit	416	10	
Units digit	417	2	

**System Status – AC Fail Restore Report**

Location	418 to 419	Location	Default
Tens digit	418	10	
Units digit	419	7	

**System Status – Low Battery Report**

Location	420 to 421	Location	Default
Tens digit	420	10	
Units digit	421	1	

**System Status – Low Battery Restore Report**

Location	422 to 423	Location	Default
Tens digit	422	10	
Units digit	423	6	

**System Status – Access Denied (Code Retry)**

Location	424 to 426	Location	Default
Code retry limit (0 = unlimited)	424	6	
Tens digit	425	7	
Units digit	426	12	

**System Status Reporting Options**

Location	427
0	No Codepad Alarm Reports allowed
1	Report to Receiver 1
2	Report to Receiver 2
4	Report to both Receiver 1 and Receiver 2
8	Report to Receiver 2 only if Receiver 1 fails

**Test Report Time (Automatic)**

Location	428 to 434	Location	Default
Hour of day (tens digit)	428	0	
Hour of day (units digit)	429	0	
Minute of day (tens digit)	430	0	
Minute of day (units digit)	431	0	
Test Report (tens digit)	432	7	
Test Report (units digit)	433	1	
Repeat interval in days	434	0	

**Test Reporting Dialer Options**

Location	435
0	No Test Reports allowed
1	Report to Receiver 1
2	Report to Receiver 2
4	Report to both Receiver 1 and Receiver 2
8	Report to Receiver 2 only if Receiver 1 fails

**Outputs**

Location	436 to 465	Location	Default
<b>Output 1 (Default = Horn speaker)</b>			
Event Code	436	1	
Event Code	437	14	
Polarity	438	0	
Time Base	439	0	
Time Base Multiplier	440	0	
Time Base Multiplier	441	0	
<b>Output 2 (Default = Fire alarm with verification)</b>			
Event Code	442	2	
Event Code	443	7	
Polarity	444	10	
Time Base	445	2	
Time Base Multiplier	446	1	
Time Base Multiplier	447	5	
<b>Strobe Output</b> <b>(Default = Strobe – reset after 8 hours)</b>			
Event Code	448	2	
Event Code	449	0	
Polarity	450	6	
Time Base	451	4	
Time Base Multiplier	452	0	
Time Base Multiplier	453	8	
<b>Relay Output (Default = Sirens running)</b>			
Event Code	454	1	
Event Code	455	15	
Polarity	456	1	
Time Base	457	0	
Time Base Multiplier	458	0	
Time Base Multiplier	459	0	
<b>Codepad Buzzer</b> <b>(Default = Entry/exit warning plus day alarm)</b>			
Event Code	460	0	
Event Code	461	13	
Polarity	462	2	
Time Base	463	1	
Time Base Multiplier	464	0	
Time Base Multiplier	465	1	

**Event Codes**

Event Code	Description
0 0	EDMSAT – satellite siren (Output 1 only)
0 1	System armed
0 2	System disarmed
0 3	Armed in STAY Mode
0 4	Armed in AWAY Mode
0 5	Pre-arming alert
0 6	Exit warning (all zones sealed) and entry warning
0 7	Exit warning
0 8	Exit warning finished
0 9	Kiss-off after end of exit time
0 10	Reserved
0 11	Entry warning
0 12	Entry warning and day alarm resetting
0 13	Exit warning and entry warning and day alarm resetting
0 14	Day alarm resetting
0 15	Day alarm latching
1 0	Day alarm enabled
1 1	Telephone line fail
1 2	Kiss-off received
1 3	AUX Power Supply fail
1 4	AC fail
1 5	Low battery
1 6	Horn speaker fail
1 7	Sensor watch alarm
1 8	Codepad medical alarm
1 9	Codepad fire alarm
1 10	Codepad panic alarm
1 11	Codepad duress alarm
1 12	Access denied (code retries)
1 13	Reserved
1 14	Horn speaker (Output 1 only)
1 15	Sirens running
2 0	Strobe
2 1	Silent alarm
2 2	Alarm in STAY Mode
2 3	Alarm in AWAY Mode
2 4	System fault
2 5	Fire alarm (resetting)
2 6	Fire alarm (latching)
2 7	Fire alarm (verification)
2 8	Remote Control 1
2 9	Remote Control 2
2 10	Remote Control 3
2 11	Radio Control Output 1
2 12	Radio Control Output 2
2 13	Radio Control Output 1 – not in AWAY Mode
2 14	Radio Control Output 2 – not in AWAY Mode
2 15	Communications fail after three attempts
3 0	Communications fail
3 1	Dialer disabled
3 2	Dialer active (on-line)
3 3	Ring detect

**Event Codes (continued)**

Event Code	Description
3 4	Codepad Panic (multibreak) v1.05+
3 5	Mimic zone 1
3 6	Mimic zone 2
3 7	Mimic zone 3
3 8	Mimic zone 4
3 9	Mimic zone 5
3 10	Mimic zone 6
3 11	Mimic zone 7
3 12	Mimic zone 8
3 13	Reserved
3 14	Reserved
3 15	Reserved
4 0	Reserved
4 1	Reserved
4 2	Reserved
4 3	Reserved
4 4	Reserved
4 5	Chime
4 6	Zone not sealed
4 7	Zone not sealed after exit time
4 8	Reserved
4 9	AC MAINS cycle (60 Hz or 50 Hz)
4 10	Area 1 – zone unsealed
4 11	Area 2 – zone unsealed
4 12	Reserved
4 13	Reserved
4 14	Reserved
4 15	Reserved
5 0	Reserved
5 1	Reserved
5 2	Area 1 in alarm (CC488 only)
5 3	Area 2 in alarm (CC488 only)
5 4	Reserved
5 5	Reserved
5 6	Area 1 armed (CC488 only)
5 7	Area 2 armed (CC488 only)
5 8	Reserved
5 9	Reserved
5 10	Area 1 disarmed
5 11	Area 2 disarmed
5 12	Reserved
5 13	Reserved
5 14	Any areas armed (CC488 only)
5 15	Any areas disarmed (CC488 only)
6 0	Area 1 codepad data terminal (CC488 only)
6 1	Area 2 codepad data terminal (CC488 only)

**Polarity (Modes)**

Option	Description
0	Output not used
1	Normally open, going low
2	Normally open, pulsing low
3	Normally open, one shot low
4	Normally open, one shot low (reactivate)
5	Normally open, one shot low (can reset)
6	Normally open, one shot low (alarm)
7	Normally open, latching low
8	Normally low, going open
9	Normally low, pulsing open
10	Normally low, one shot open
11	Normally low, one shot open (reactivate)
12	Normally low, one shot open (can reset)
13	Normally low, one-shot open (alarm)
14	Normally low, latching open

**Time Base**

Option	Description
1	200 ms
2	1 sec
3	1 min
4	1 hour

**Time Base Multiplier**

Enter a value between 01 and 99.

**One Shot Mode**

When you program the output polarity as one shot, the time base is multiplied by the time base multiplier. For example, if the time base = 2 and the multiplier = 05, the output operates for 10 sec.

**Pulsing Mode**

When you program the output polarity as pulsing, the time base becomes the ON time and the multiplier becomes the OFF time. The OFF time is the time base, which is multiplied by the multiplier. For example, if you want the output to pulse 1 sec ON and 5 sec OFF, you would program time base as 1 and the multiplier as 5.

**Entry Time 1**

Location	466 to 467	Location	Default
Increments of 1 sec (0 to 15 sec)	466	4	
Increments of 16 sec (0 to 240 sec)	467	1	

**Entry Time 2**

Location	468 to 469	Location	Default
Increments of 1 sec (0 to 15 sec)	468	8	
Increments of 16 sec (0 to 240 sec)	469	2	

**Exit Time (AWAY/STAY Modes)**

Location	470 to 471	Location	Default
Increments of 1 sec (0 sec to 15 sec)	470	12	
Increments of 16 sec (0 sec to 240 sec)	471	3	

**Entry Guard Time For STAY Mode**

Location	472 to 473	Location	Default
Increments of 1 sec (0 sec to 15 sec)	472	0	
Increments of 16 sec (0 sec to 240 sec)	473	0	

**Delay Alarm Report Time**

Location	474 to 475	Location	Default
Increments of 1 sec (0 sec to 15 sec)	474	0	
Increments of 16 sec (0 sec to 240 sec)	475	0	

**Sensor Watch Time**

Location	476 to 477	Location	Default
Increments of days (tens digit)	476	0	
Increments of days (units digit)	477	0	

**Codepad Lockout Time**

Location	478	Default	0
0	No lockout		
1 to 15	Increments of 10 sec (10 sec to 150 sec)		

**Siren Run Time**

Location	479	Default	5
0	No siren time		
1 to 15	Increments of 1 min (1 min to 15 min)		

**Siren Sound Rate**

Location	480	Default	7
0 to 15	0 = slowest frequency 15 = fastest frequency		

**Auto Arming Pre-Alert Time**

Location	481	Default	1
0	No pre-alert time		
1 to 15	Increments of 5 min (5 min to 75 min)		

**Auto Arming Time**

Location	482 to 485	Location	Default
Hour of the day (tens digit)	482	0	
Hour of the day (units digit)	483	0	
Minute of the day (tens digit)	484	0	
Minute of the day (units digit)	485	0	

**Auto Disarming Time**

Location	486 to 489	Location	Default
Hour of the day (tens digit)	486	0	
Hour of the day (units digit)	487	0	
Minute of the day (tens digit)	488	0	
Minute of the day (units digit)	489	0	

**Kiss-Off Wait Time**

Location	490	Default	3
Increments of 500 ms (500 ms to 8 sec)			

**Speaker Beep Volume**

Location	491	Default	13
0 to 15	0 = no beeps 15 = loudest beeps		

**System Options 1**

Location	492	1	Bosch smart lockout allowed
2			Horn speaker monitor
4			Strobe indication for radio arm/disarm
8			Assign Button 4 on transmitter to operate STAY Mode

**System Options 2**

Location	493	Default	0
1			Codepad panic to be silent
2			Codepad fire to be silent
4			Codepad medical to be silent
8			Access denied (code retries) to be silent

**System Options 3**

Location	494	1	AC fail after 1 hour (Disabled = after 2 min)
2			Ignore AC fail
4			Pulse count handover allowed
8			Handover delay to be sequential

**System Options 4**

Location	495	Default	0
1			Panel to power up disarmed (if power reset)
2			Arm/disarm tracking on power up
4			Internal crystal to keep time
8			Night arm station or RE005 installed

**Consumer Options 1**

<b>Location</b>	496
<b>Default</b>	0
1	Test reports only when armed
2	Test report after siren reset
4	Auto arm in STAY Mode 1
8	STAY indicator to display day alarm status

**Consumer Options 2**

<b>Location</b>	497
1	Codepad display extinguish after 60 sec
2	Single button arming allowed (AWAY/STAY Modes 1 and 2)
4	Single button disarming allowed (STAY Modes 1 and 2)
8	Alarm memory reset on disarm

**Consumer Options 3**

<b>Location</b>	498
1	Codepad fault beeps allowed
2	Use digit 3 for codepad duress alarm (instead of digit 9)
4	Alarms activate sirens and strobe outputs in STAY Modes 1 and 2
8	Zone tamper alarms to be silent

**Radio Input Options**

<b>Location</b>	499
<b>Default</b>	0
1	304 MHz RF Receiver (RF3213)
2	Latching keyswitch input
3	Momentary keyswitch input
4	Reserved

**User Code Area Assignments**

<b>Location</b>	534 to 549	
		<b>Location</b>
User Code 1	534	0
User Code 2	535	0
User Code 3	536	0
User Code 4	537	0
User Code 5	538	0
User Code 6	539	0
User Code 7	540	0
User Code 8	541	0
User Code 9	542	0
User Code 10	543	0
User Code 11	544	0
User Code 12	545	0
User Code 13	546	0
User Code 14	547	0
User Code 15	548	0
User Code 16	549	0
0		User code not assigned
1		User code assigned to Area 1
2		User code assigned to Area 2
3		User code assigned to both Area 1 and Area 2

**Domestic Telephone Numbers**

<b>Location</b>	550 to 597
<b>Default</b>	None

**Reserved**

<b>Location</b>	598
<b>Default</b>	0

**RF Options**

<b>Location</b>	599
<b>Default</b>	0
1	Sound siren on RF receiver fail
2	Sound siren on RF receiver tamper/jamming
4	Unseal zone that fails supervision (if supervision enabled)
8	RF jamming monitoring allowed

**RF Device Mapping Option**

<b>Location</b>	600 to 615	<b>Location</b>	<b>Default</b>
Map RF Device 1	600	1	1
Map RF Device 2	601	1	1
Map RF Device 3	602	1	1
Map RF Device 4	603	1	1
Map RF Device 5	604	1	1
Map RF Device 6	605	1	1
Map RF Device 7	606	1	1
Map RF Device 8	607	1	1
Map RF Device 9	608	1	1
Map RF Device 10	609	1	1
Map RF Device 11	610	1	1
Map RF Device 12	611	1	1
Map RF Device 13	612	1	1
Map RF Device 14	613	1	1
Map RF Device 15	614	1	1
Map RF Device 16	615	1	1
0		Mapping Disable	
1		Mapping Enable	

**RF Device Mapping for Devices 1 to 8**

Location	616 to 623	Location	Default Value*
Map RF Device 1 to Zone (1 to 16)	616	00	
Map RF Device 2 to Zone (1 to 16)	617	01	
Map RF Device 3 to Zone (1 to 16)	618	02	
Map RF Device 4 to Zone (1 to 16)	619	03	
Map RF Device 5 to Zone (1 to 16)	620	04	
Map RF Device 6 to Zone (1 to 16)	621	05	
Map RF Device 7 to Zone (1 to 16)	622	06	
Map RF Device 8 to Zone (1 to 16)	623	07	

\*The programming for zone numbers 1 through 8 is in hexadecimal code (00 through 07). Refer to *Table 5*.

**Table 5: Hexadecimal Values for Zone Nos.**

Zone Number	Hexadecimal Value
1	00
2	01
3	02
4	03
5	04
6	05
7	06
8	07

**RF Signal Strength for Devices 1 to 8**

Location	801 to 808	Default
Location 801	Device 1	0 0 0 0 0 0 0 0
Location 802	Device 2	
Location 803	Device 3	
Location 804	Device 4	
Location 805	Device 5	
Location 806	Device 6	
Location 807	Device 7	
Location 808	Device 8	

**RF Signal Strength for Devices 9 to 16**

Location	809 to 816	Location	Default
Signal strength for RF device 9	809	0	
Signal strength for RF device 10	810	0	
Signal strength for RF device 11	811	0	
Signal strength for RF device 12	812	0	
Signal strength for RF device 13	813	0	
Signal strength for RF device 14	814	0	
Signal strength for RF device 15	815	0	
Signal strength for RF device 16	816	0	

**Country Codes**

Location	838 to 839	Refer to page 28
Country Code (tens digit)	838	0
Country Code (units digit)	839	2

**Default Options**

Location	900
0	Defaulting system allowed
15	Defaulting system disabled

**System Time**

Location	901 to 904	Location	Default
Hour of the day – tens digit	901	0	
Hour of the day – units digit	902	0	
Minute of the day – tens digit	903	0	
Minute of the day – units digit	904	0	

**System Date**

Location	905 to 910	Location	Default
Day of the month – tens digit	905	0	
Day of the month – units digit	906	1	
Month of the year – tens digit	907	0	
Month of the year – units digit	908	1	
Year – tens digit	909	0	
Year – units digit	910	1	

## 10.0 Country Codes

Country	Code	Country	Code	Country	Code	Country	Code	Country	Code
Argentina	0 1	Poland	4 1	Liechtenstein	6 3	Gabon	6 5	Papua New Guinea	6 5
Australia	0 2	Portugal	4 2			Gambia	6 5	Paraguay	6 5
Austria	0 3	Romania	4 3	Afghanistan	6 5	Ghana	6 5	Rwanda	6 5
Belgium	0 4	Russian Federation	4 4	Albania	6 5		6 5	St. Lucia	6 5
Brazil	0 5	Saudi Arabia	4 5	Andorra	6 5	Grenada	6 5	Samoa Eastern	6 5
Bulgaria	0 6	Serbia and Montenegro	4 6	Angola	6 5	Guatemala	6 5	San Marino	6 5
Canada	0 7	Singapore	4 7	Antigua and Barbuda	6 5	Guinea	6 5	Sao Tome and Principe	6 5
China	0 8	Slovakia	4 8	Azerbaijan	6 5	Guyana	6 5	Saint Vincent	6 5
Colombia	0 9	Slovenia	4 9	Bahamas	6 5	Haiti	6 5	Senegal	6 5
Croatia	1 0	South Africa	5 0	Bangladesh	6 5	Vatican	6 5	Seychelles	6 5
Cyprus	1 1	Spain	5 1	Barbados	6 5	Honduras	6 5	Sierra Leone	6 5
Czech Republic	1 2	Sweden	5 2	Belize	6 5	Iran	6 5	Solomon Is	6 5
Denmark	1 3	Switzerland	5 3	Benin	6 5	Iraq	6 5	Somali	6 5
Egypt	1 4	Taiwan, China	5 4	Bhutan	6 5	Ivory Coast	6 5	Sri Lanka	6 5
Estonia	1 5	Thailand	5 5	Bolivia	6 5	Jamaica	6 5	Sudan	6 5
Finland	1 6	Turkey	5 6		6 5	Kenya	6 5	Suriname	6 5
France	1 7	United Kingdom	5 7	Botswana	6 5	Kiribati	6 5	Swaziland	6 5
Germany	1 8	United States	5 8	Brunei	6 5	Kuwait	6 5	Tajikistan	6 5
Greece	1 9	Venezuela	5 9	Burkina-faso	6 5	Laos	6 5	Tanzania	6 5
Hong Kong, PRC	2 0	Vietnam	6 0	Burma	6 5	Lesotho	6 5	Togo	6 5
Hungary	2 1			Burundi	6 5	Liberia	6 5	Tuvalu	6 5
India	2 2	Armenia	6 2	Cambodia	6 5	Libya	6 5	Uganda	6 5
Indonesia	2 3	Belarus	6 2	Cameroon	6 5	Madagascar	6 5	United Arab Emirates	6 5
Ireland	2 4	Georgia	6 2	Cape Verde	6 5	Malawi	6 5	Uruguay	6 5
Italy	2 5	Jordan	6 2	Central African Republic	6 5	Maldives	6 5	Uzbekistan	6 5
Japan	2 6	Kazakhstan	6 2	Chad	6 5	Mali	6 5	Vanuatu	6 5
Korea, South	2 7	Kyrgyzstan	6 2	Chile	6 5	Marshall Islands	6 5		
Latvia	2 8	Moldova	6 2	Comoros	6 5	Mauritania	6 5		
Lithuania	2 9	Oman	6 2	Congo	6 5	Mauritius	6 5		
Luxembourg	3 0	Pakistan	6 2	Costa Rica	6 5	Micronesia	6 5		
Macedonia	3 1	Qatar	6 2	Cuba	6 5	Monaco	6 5		
Malaysia	3 2	Syria	6 2	Djibouti	6 5	Mongolia	6 5		
Malta	3 3	Ukraine	6 2	Dominica Rep.	6 5	Mozambique	6 5		
Mexico	3 4			East Timor	6 5	Namibia	6 5		
Netherlands	3 5	Algeria	6 3	Ecuador	6 5	Nauru	6 5		
New Zealand	3 6	Bahrain	6 3	El Salvador	6 5	Nepal	6 5		

Country	Code	Country	Code	Country	Code	Country	Code	Country	Code
Nigeria	3 7	French Polynesia	6 3	Equatorial Guinea	6 5	Nicaragua	6 5		
Norway	3 8	Iceland	6 3	Eritrea	6 5	Niger	6 5		
Peru	3 9	Israel	6 3	Ethiopia	6 5	Palau	6 5		
Philippines	4 0	Lebanon	6 3	Fiji	6 5	Panama	6 5		

## Notes

## Notes

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